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09/742,302	12/22/2000	Jong Woon Park	66476-024-5	8147

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EXAMINER

KEITH, JACK W

ART UNIT

PAPER NUMBER

3641

DATE MAILED: 05/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/742,302

Applicant(s)  
Park et al

Examiner  
Jack Keith

Art Unit  
3641



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Apr 2, 2003
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above, claim(s) 2 and 3 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

Art Unit: 3641

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 4/2/2003 have been fully considered.

Applicant argues that Py and West do not disclose applicant's inventive concept. As set forth more fully below the amendment to the claim (i.e., diameters of approximately 2-5 cm and including open ends) is *New Matter*.

Figure 1 fails to show a vertical pipe (130) having open ends such is only displayed as a cut away portion of the pipe. No support for open vertical pipes is in the specification. Neither is there support for holes having 2-5 cm diameters in the disclosure.

Applicant argues that Py fails to show holes in the horizontal pipe jacket. The examiner disagrees. The ends of channel 20 are clearly set forth as holes in figure 4. While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See *In re Mratz*, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

Applicant further argues that neither Py nor West set forth the jacket pipes located on a shell boundary of the cavity floor. Note the cavity floor is not positively claimed. However, this argument is not understood. Both Py and West set forth core melt retention devices located on the shell boundary.

Art Unit: 3641

Applicant further argues that neither Py nor West set forth a dovetail connection connecting the horizontal pipes to the vertical pipes.

The examiner disagrees. Referring to the specification (see page 4, line 22) the connection is disclosed as a dovetail connection as shown in figure 1. While this connection does not appear to be that of what is commonly known in the art to be a dovetail, applicant can be his own lexicographer (MPEP § 2111.01). Accordingly the joint of figure 1 is viewed as a dovetail. Thus either Py or West meet the disclosed connection. If the joint in question is that of a common dovetail joint then applicant should revise figure 1 to be consistent with his claimed intent.

The 102 rejection of Paper no. 13 is withdrawn a new rejection follows below based on applicant's amendment and arguments.

### *Drawings*

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the dovetail feature and open end vertical pipe must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Art Unit: 3641

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no support in the original disclosure for water inlets including holes having diameters of approximately 2-5 cm.

There is no support in the original disclosure for vertical pipes including open ends.

Appropriate correction is the cancellation of the above subject matter to the claims.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. Evidence that claim 1 fails to correspond in scope with that which applicant(s) regard as the invention can be found in Paper No. 14 filed 4/2/2003. In that paper, applicant has stated the neither the joint of Py nor West disclose a dovetail joint. Based on applicant's disclosure and figure 1 a dovetail is represented in figure 1. Accordingly, since applicant argues that his joint is different from the joint of either Py

Art Unit: 3641

or West, setting forth the same concept, the scope of the claim cannot be ascertained. According, the meets and bounds of the claim language in regard to the dovetail joint are indefinite.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Py et al ('509) and in view of West et al ('630).

Py discloses applicant's inventive concept. An ex-vessel core melt catcher/retainer comprising horizontal jacket pipes (21/22) located on a shell boundary of the cavity floor (5), the horizontal jacket pipes having water inlet holes (see figure 4), said water inlets holes allowing water to enter cooling channels (20); vertical pipes (12/13) connect both ends of the horizontal jacket pipes (21/22) in the form of dovetails to communicate with each other; and a water supply (16) part connected said horizontal jacket pipes (21/22) allowing coolant to flow from said water inlets (20) to said cooling channels (20) covering the bottom portion of the core melt catcher/retainer.

Art Unit: 3641

With regard to the dimensions of the inlet water holes where the general conditions of a claim are set forth in the prior art it is not inventive to discover the optimum range.

See figures 1, 3, 4 and 5. While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

The statements of intended use or field of use clauses are essentially method limitations or statements of intended or desired use. Thus, these claim limitations as well as other statements of intended use do not serve to patentably distinguish the claimed structure over that of the reference. See In re Pearson, 181 USPQ 641; In re Yanush, 177 USPQ 705; In re Finsterwalder, 168 USPQ 530; In re Casey, 512 USPQ 235; In re Otto, 136 USPQ 458; Ex parte Masham, 2 USPQ 2nd 1647.

See MPEP § 2114 which states:

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from the prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ 2nd 1647

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than functions. In re Danly, 120 USPQ 528, 531.

Apparatus claims cover what a device is not what a device does. Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528.

As set forth in MPEP § 2115, a recitation in a claim to the material or article worked upon (i.e., coolant (water)) does not serve to limit an apparatus claim.

Art Unit: 3641

Py further discloses that various known methods of cooling the core melt can be employed (see column 7, lines 65+); however, Py does not disclose the cooling circuit as being open to allow for vapor escape therethrough.

West teaches the use of open end vertical pipes (44) connecting both ends of the horizontal jacket pipes (36) to allow for vapor escape in the same field of endeavor. Note if not apparent that the vertical pipes are open ended then figure 8 sets forth an open cooling system (44/51/52).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the core melt device of Py to have included the known open ended cooling systems as set forth in West, to gain the advantages thereof (i.e., reduced system maintenance (i.e., cooling pumps), radioactive waste (i.e., cooling pumps), etc.), because such results are in no more than the use of conventionally known techniques/designs available within the core melt catcher art.

8. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Py et al ('509) and in view of West et al ('630) and in further view of Holden et al (5,812,623).

As set forth above the combination of Py and West disclose applicant's inventive concept; however, if not apparent that the joint connecting the horizontal and vertical pipe is that of a dovetail then Holden teaches that dovetail connections are conventional within the nuclear art (see figure 5 and column 4, lines 29+). Accordingly, modification of the combination (Py in view of West) to have included the known joint connection teachings of Holden would have been



Art Unit: 3641

obvious to one having ordinary skill in the art at the time the invention was made. Such use of a dovetail joint would prevent misalignment and separation of the piping in question.

*Conclusion*

9. The cited prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack Keith whose telephone number is (703) 306-5752. The examiner can normally be reached on Monday through Friday from 7:00 to 4:00.

Application/Control Number: 09/742,302

Page 9

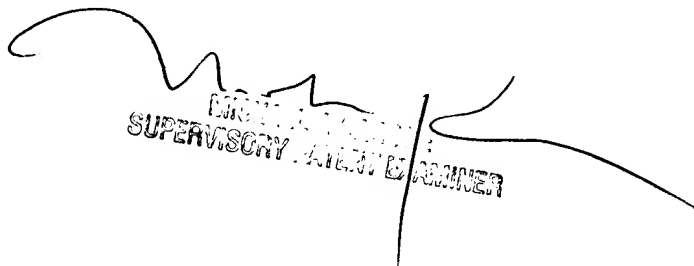
Art Unit: 3641

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached on (703) 306-4198. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

jwk

May 1, 2003

  
SUPERVISORY EXAMINER